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A N
INAUGURAL DISSERTATION
ON THE
A P O P L E X Y.
SUBMITTED TO THE EXAMINATION
OF THE
REV. JOHN EWING, S. T. P. Provost;
THE
TRUSTEES AND MEDICAL PROFESSORS
OF THE
UNIVERSITY OF PENNSYLVANIA;
For the Degree of
DOCTOR OF MEDICINE; 1794
On the 19th. day of May, A. D. 1794.

Br JOHN LAMB, jun. of New-York.

*But ah! permit to pity human state :
If not to help, at least lament their fate.*

HOMER's Iliad.

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A N

INAUGURAL DISSERTATION

ON THE

A P O P L E X Y.

WHEN we take a retrospective view of the different systems of physic, which have made their appearance in different ages and countries; likewise, the discordant opinions respecting the causes and cure of diseases: we have just reason to lament the contracted state of human knowledge in general, and more particularly the *abstruse* nature of the *science of medicine*. Because, I am pretty clearly convinced in my own mind, that as much *harm* as well as *good*, has been committed by those who have undertaken to practice this art among mankind, on such principles and theories, as have been handed down to them at particular periods of time; principles and theories which were evidently built on hypothetical conjectures.

FULLY impressed with an idea of so great importance, I shall enter on my subject with diffidence: and if any doctrines or opinions should be advanc-

ed in the following essay, not corresponding with former experience and observation ; or that do not meet the approbation of the *candid* and *liberal*, I shall most certainly, with the greatest cheerfulness discard them as imaginary and not well grounded, for those which are allowed to be founded on a more substantial basis :—for the only rational and proper method to become versant in useful knowledge, is to hear the *sentiments* of others, and be open to *conviction*.

PREVIOUS to entering on a discussion of the disease, which is intended for this Inaugural Dissertation, it may not be entirely improper to point out its original derivation :—Apoplexy is then derived from the Greek word *ἀποπλεός*, which in that language signifies to strike, or knock down, or smite suddenly :—Latin authors have considered the same disease under different appellations :—viz, *Sideratio*, *Attonitus Morbus*, *Attonitus Stupor*, &c. But I shall for the sake of perspicuity and conciseness, make use of the term apoplexy throughout the whole of the following essay ; as multiplying names, has only a tendency to confuse, and makes our ideas of no determinate signification. This is a practice, it is presumable, should be pursued particularly by every person, who attempts to investigate any part or the whole of the human economy ; either with a view to enlarge his knowledge, or to understand in an accurate manner, the healthy or morbid functions of the animal body ; so that he might be capable of discharging the duties of his profession, with that honor and dignity the science of medicine justly merits.

IT has been a universal practice from the time of Hippocrates to the present day, to distinguish diseases into different *genera* and *species*; and even the same disease is very frequently considered in the latter point of view. Thus the disease under our present consideration has been divided by medical authors into several species, viz. *sanguineous*, *serous*, *spasmodic*, *symptomatic*, &c. Doctor Cullen in his *methodical nosology*, enumerates nine species, besides those which are *symptomatic*.

Most writers and practical physicians have taken notice of two kinds of apoplexy, namely the *sanguineous* and *serous*. There is no manner of doubt, but effusions of *blood* or *serum* do frequently happen in the head; though these are certainly to be considered as *effects* and not as *causes*; therefore it will be proper to seek for the cause of the disease from some other source, and it will be found to consist in an unequal excitement of the arterial and nervous systems. Dr. Rush in his clinical lectures, divides apoplexy into the *tonic* and *atonic* states, and considers it as a disease of the whole system, as much so as consumption or dropsy—and depending either on *direct* or *indirect* debility. Let us suppose for the sake of argument, that there is some foundation for the distinction of *sanguineous* and *serous* apoplexy; yet notwithstanding, it is my opinion, it would be a difficult matter to distinguish one from the other before the death of the patient: for the following reasons—1st. Because, the symptoms in both are the same or very analogous. 2d. Because, *effusions* of *blood* frequently take place, in old persons who are far advanced in years; while on the other hand, *serous effusions*

take place in young persons, and in those who are in the prime and vigor of life. These principles being admitted as true, and I trust no one will pretend to deny them, as being uncontrovertable facts; this important principle then ought naturally to present itself, to the mind of every physician, who takes into his hands the life of his fellow creatures; That he should most inevitably prescribe remedies according to the state of the body, and the most urgent symptoms, and not (as is too frequently the case) for the name of a disease, which may probably be arbitrary, and of no definite signification,

THIS is also the opinion of one of the American physicians. He observes in his nosological and pathological lectures, and at the same time endeavours to impress on the mind of every student in the most energetic language, that every prudent and sensible physician will prescribe remedies according to the "condition of the system, and not for the name of a disease."

DEFINITION.

DOCTOR CULLEN, whose authority and name, stood as high as any in medicine; observes in his first lines of the practice of physic, That "apoplexy is that disease in which the whole of the external and internal, and the whole of the voluntary motions, are in some degree abolished; while respiration and the action of the heart continue to be performed." This definition appeared to me so comprehensive and explanatory of the disease, that I chose to quote the Doctor's own words and expressions on the subject.

HISTORY OF THE DISEASE.

THIS disease like many others to which the human body is incident, spares neither sex; for I believe it as generally seizes the female as the male: no constitution or age can be said to be entirely exempted from becoming affected with this direful malady: it even attacks persons in youth, in middle life, and in declining years;—though the latter period is supposed to be the most frequent. It is asserted that apoplexy most commonly effects those persons who are far advanced in life, and particularly those above sixty years of age.*

AUTHORS consider predisposition, (or to speak in more intelligible language,) a particular state of the body, either as it respects its *solids, fluids, configuration, &c.* to be absolutely necessary to exist in many instances, previous to the system being in a proper situation to become affected with disease: Consequently, it is generally supposed, that persons who have large heads, short necks, and considerable irritability of the muscular and nervous systems; likewise those who are of a plethoric diathesis, and have pursued an inactive and sedentary course of life; and who have lived in a luxurious manner, and made too frequent use of intoxicating liquors, are peculiarly predisposed to this melancholy complaint.

FROM the most early knowledge of the human structure, and of sickness, many diseases have al-

* Vide Dr. Cullen's first lines of the practice of physic, page 305.

ways been considered to be of an hereditary nature; until Doctor Brown in his *elements* of medicine denied their existence altogether:—notwithstanding, he was certainly a man of erudition, and has in my opinion, gone considerable length in elucidating many parts of medicine; yet I cannot agree with him in this particular, because there does evidently appear a foundation for such a distinction, if we will only reflect on the great similitude there frequently is, between parents and their offspring, particularly, as it respects temperament, fabric of body, and peculiarity of mind. But what is more directly in point is, that there are innumerable instances recorded in the histories of physic, by men of the first eminence in their profession, of children becoming affected with diseases which were peculiar to their ancestors or parents; when no evident external or internal cause could be supposed to have produced them, except hereditary predisposition, and peculiar organization of the solids of the body.

FROM these circumstances, there is I think, great reason to suppose that *apoplexy* might with as much propriety, be ranked under the class of hereditary disorders; as even *scrophula*, *mania* or the *pulmonary consumption*.

IT is an observation of medical writers, that this disease happens more frequently in the winter season, or in springs which are moderately warm, and have followed severe and cold winters. There may I think, be some foundation for such an opinion, as it is well known, that the phlogistic diathesis of the system, at such seasons, is more apt

to prevail ; nevertheless it may happen and not unfrequently, at every season of the year ; as experience and observation, must convince every physician, who is the least conversant in a knowledge of diseases.

APOPLXY like many other complaints comes on oftentimes very suddenly ; but at other times is preceded by certain premonitory symptoms. The patient falls suddenly to the ground, and in a great measure, a total and quick privation of all the powers and voluntary motion take place ; with coma, and frequently an entire suspension of the energy of the mental faculties : There is sometimes a loss of sensibility and motion on one side, whilst on the other convulsive action continues.—The mouth is pretty generally thrown open, owing probably to a relaxation of the muscles of the lower jaw ; and the tongue which is tumefied, is consequently thrust between the teeth ; the patient does sometimes foam at the mouth, but this is not a general pathognomonic sign, as it only occurs in some cases and but rarely ; there is considerable floridity of the face with a bloated countenance in many instances ; but at other times the reverse happens, and the face is far less ruddy, attended with considerable degree of paleness of the cheeks ; the vessels about the cranium, particularly the temples are full and turgid with blood ; so much so that a hemorrhagy frequently happens from the nasal passages, mouth, and ears, which may give a temporary relief to the patient ; by lessening in some small degree, the too forcible circulation of the blood through the internal and external carotid arteries and their ramifications, also making a revulsion from the vessels of the head : The eyes are in a state of tu-

mefaction and pour out an aqueous fluid, they have sometimes a vitreous and sparkling appearance.

A **VIOLENT**, rapid and forcible palpitation of the heart frequently occurs, with a *pulse* generally *full, strong, hard and slow*; and on other occasions, it is *slow* and very *languid*, though the latter case is supposed to take place towards the termination of the disease.

IN some instances (though not generally speaking) there is a spontaneous discharge from the urinary passages, with an involuntary evacuation of feces per anum. The respiration is difficult and laborious to perform, accompanied with *sterior* or noisy respiration; which may be owing to the *mucus* of the *fauces* being forced through the nostrils; or more probably as Doctor Andrews' observes in his Inaugural Dissertation, "To an extreme degree of relaxation in the *palatum molle*, " and *uvula*, in consequence of which they interrupt " the free passage of air to and from the *glottis*." The hot and dry skin which frequently takes place in this disorder, is owing to a diminution of perspiration in the perspiratory vessels on the surface of the body.

I SAID formerly that this disease was on some occasions preceded by certain harbingers or precurso-
ry symptoms; and which are indicative of an im-
mediate approach of an apoplectic paroxysm. These
are of great variety, such as, uncommon flug-
gishness or inactivity of bodily motion; with
some transitory degree of torpidity and diminution
of sensation, in the upper and lower extremities;
it is said that the patients are at times affected

with a sensation of pricking of a peculiar nature, as if insects were crawling over them, it is analogous to the sensation which takes place in epilepsy; vertigoes or frequent fits of giddiness, with violent oppressive pains in the head, and a sounding in the ears, known in medical language by the name of *tinnitus aurium*; some irregularity of vision and hearing; hemorrhagy from the nares; there is also considerable slowness of speech, or faltering of the tongue in articulating words and syllables, with an aversion to answer questions put to them by others; a failure of the memory frequently comes on, a great propensity to drowsiness, and frequent fits of incubus or the asthma nocturnum.

FURTHER, a *stridor dentium* or grinding of the teeth sometimes occurs when the patient is in a state of somnolency, or actual sleep; likewise, a turgescency of the eyes which are in a state of debility, and pour out an aqueous flow of humors; attended with some slight degree of the imperfection of the organs of vision, happen in some instances; oppressions about the præcordia and organs of respiration during sleep, pituitous vomiting, and laborious breathing on the least degree of motion of the body; tremblings in the greater part of the organs of voluntary motion; it is said there is an unusual absence of the hæmorrhoids in those persons who are subject to attacks of that disorder.

DIAGNOSIS.

THE diagnostic signs of diseases are in many instances very difficult to comprehend, and sometimes

it is utterly impossible to point them out in so accurate a manner, as to be capable of giving each disease its proper generic appellation. For there frequently is such a strong analogy between different diseases, in their *causes, symptoms and method of cure*, that one would even suppose at first view, that they were one and the same, though at the same time, quite opposite in their nature and circumstances: Further, two or more disorders are oftentimes united in the same patient in such a manner, that a physician will be exceedingly embarrassed, in giving a proper and decided diagnosis.

THERE are several diseases taken notice of by practical writers under the denomination of *carus, cataphora, coma, catalepsis* and *lethargus* :—But they appear so analogous to apoplexy, or to be only different degrees of it, that there would be considerable difficulty, if not an entire impossibility to draw particular diagnostic signs, between these and the one under present consideration; therefore, I shall place them, as belonging to the same head as apoplexy.

INTOXICATON frequently presents phenomena, so very analogous to those of the disease of which I am now treating of in this dissertation, that they have oftentimes alarmed by-standers exceedingly; and even physicians of experience and observation, if they are not particularly attentive to this circumstance, will frequently be deceived, and have a very inaccurate idea of the real nature and cause of the complaint. Where the phenomena arise from intoxicating liquors, they may generally be discovered by attending particularly to the state of the breath, for it will be so fully saturated with

the odorous effluvia of certain spiritous liquors as *brandy, gin, &c.* (and which are very commonly used by persons who give themselves up to frequent intoxication;) when this is the case, the cause of the disease may with great certainty be pointed out; but on the other hand, when they arise from liquors that do not afford this distinguishing characteristic; such as strong *beer, porter*, and many others, then the case will be more difficult, and if the physician does not apprehend the cause, from the state of the pulse, as to hardness and tension, he may continue for several hours in doubt and painful anxiety, until the inebriating effects of the liquor go off, and leave the patient in a state of indirect debility.

DOCTOR RUSH says that apoplexy differs from sleep, by coming on suddenly without any previous fatigue: it also differs materially from the latter, by the great difficulty there is, or indeed an utter impracticability of rousing the patient from his apoplectic paroxysm. The coma which succeeds a fit of epilepsy, has a striking similitude to apoplexy—but is said to be distinguished from it by paying particular attention to the previous convulsions.

THE narcotic and deleterious effects of many substances when taken into the stomach in large doses, as *opium, belladonna, digitalis* and the different preparations of *lead, &c.* produce symptoms strongly resembling those of apoplexy—that it will be difficult to point out the difference with precision and exact limitation—experience may have some influence in determining by the peculiar circumstances of the countenance of persons in this predicament, though they are not easily describ-

able, the *pulse* may be another criterion, which is more frequent and not so full as in apoplexy. Sometimes phenomena similar to those of apoplexy have been brought on by overloading the stomach with food difficult of solution; when this happens it is said, that the patient exhibits marks of oppression and uneasy sensations of his stomach, and the pulse is not so *slow* and *full* as in apoplexy. It will certainly be proper in every case of this kind, to free the stomach from the load and oppression; the remedies suitable for this indication will be large draughts of warm water, gentle emetics, if vomiting cannot be excited by any other means; it will be of the greatest importance to throw out the contents of the stomach as soon and early as possible, because they may excite effusions in the brain. Apoplexy is to be distinguished from palsy, by its being an affection of all the powers of sense and voluntary motion, and from syncope, by its being with the continuance of the action of the heart, arteries and respiration.

THE PREDISPOSING CAUSES.

WHATEVER causes or circumstances occasion a preternatural accumulation of blood in the vessels of the cranium, may with propriety be considered as predisposing causes to apoplexy; therefore I shall attempt to point out some of those causes, which commonly produce a plethoric state of the system, and endeavour to explain at the same time, the manner how they operate as predisposing causes, in producing the disease under our present consideration.

1st. EXCESS in eating and drinking; this of course will occasion an increase in the quantity of that fluid which goes to nourish the body, (namely chyle) likewise an augmentation of the general mass of blood in the arterial and venous systems; moreover, when the stomach is distended with large quantities of animal or vegetable food and drink, the natural consequence resulting from such a condition of that organ, is a compression of the different vessels and viscera of the abdomen, and also the midriff or diaphragm will not be capable of performing its important and regular action as before, and of course the lungs cannot perform their office with ease; this being the case, there will be an impediment to a considerable degree to the blood returning in the veins from the head: I think we may justly infer that this circumstance does take place, if we will only attend particularly to persons after eating large meals, for their countenances become florid and turgid with blood, the eyes are red, and on some occasions, there is a degree of somnolency and stupefaction comes on; from the different effects which are produced by intemperance in eating and drinking, it must at once be evident, that they will produce a very great predisposition to this complaint.

2d. AN indolent life, with a nourishing and free diet, will have the effect of producing a general phlethoric state of the system, and in this way does frequently prove a predisposing cause of apoplexy.

3d. SUPPRESSION of any customary discharge from the different parts of the body, may be considered as occasioning a predisposition to this disease, such as an evacuation of blood from the hæm-

rhoidal vessels constituting the disease called the bleeding piles; likewise bleeding from the nose after it has become habitual, is another predisposing cause; for in consequence of a stoppage of this nature, there will be an accumulation of blood in the whole system.

4th. A **LARGE** head is generally taken notice of by medical writers as another predisposing cause to this disease, and many of them are of opinion that it occurs more frequently in such instances, than in any other; whether the uncommon largeness of the head, as some suppose, is only an effect of the predisposing cause, and is to be considered as produced by the determination of the blood, rather than occasioning it, I am not clearly able to determine.

5th. A **SHORT** neck, is likewise said to occasion a predisposition to apoplexy—this is very probable, for the heart must be much nearer the head than when it is long, the consequence of this will be, the blood must circulate with considerable more velocity through the arteries to the cranium; while on the other hand, the return of the blood through the veins will in some measure be impeded; owing to the veins being too turgid with that fluid.

6th. **CORPULENCY**, is mentioned by authors as another predisposing cause; and is said to produce this effect, by compressing the vessels in every part of the body except the head; if this should be the case, it must be evident that the blood will accumulate and produce compression of the brain; respiration becomes laborious to perform, and may

occasion an impediment to the free return of the blood from the head.

7th. **EXPOSURE** of the feet to cold and wet, will prove a predisponent cause, by producing a feeble circulation, and diminishing the quantity of blood in the lower extremities, which will be the means of making a greater determination of it to the head.

8th. **PAINFUL** and long application of the mind to any one subject, particularly if it should be of an abstruse nature, will frequently occasion a determination of blood to the head ; therefore, may prove a predisposing cause of apoplexy.

9th. **OLD-AGE** predisposes to this complaint by exciting a determination of blood to the head, from particular and accidental causes, not easy to point out on all occasions.

THE EXCITING CAUSES.

THESE are such powers as when applied either generally or partially to the human body, are capable of exciting a paroxysm of apoplexy, particularly in those persons who have a strong predisposition to become affected with this melancholy disease. Their operation is either to increase the momentum or velocity of blood in its circulation through the vessels of the head ; or on the other hand, to suddenly augment the blood in the vessels of the brain. They are of considerable number, therefore I shall mention some of them.

1st. VIOLENT exercise, may be considered as a very common exciting cause, and produces its effects by increasing the impetus of blood in the general circulation.

2nd. WHEN the general application of heat is applied to the body, it is very probable that its action must operate in an analogous manner, as the one we have just previously mentioned.

3rd. WHEN heat has been partially applied to the head, as when a person is exposed to the direct rays of the sun, it will frequently excite apoplexy.

4th. EXCESS of venery will on some occasions excite a paroxysm.

5th. IT is said that the striking in of any eruptions, or suddenly drying up issues, setons, &c. will prove exciting causes.

6th. MERCURIAL salivations carried too a great length.

7th. FRACTURES and contusions of the head, and poisonous exhalations, are also causes which will produce apoplexy.

8th. VIOLENT passions of the mind, as anger, grief, excessive joy, &c. these appear to occasion particularly a determination of blood to the head, as is evident from the floridity of the countenance which takes place.

10th. STOOPING too long with the head down, or laying with it in too low a position, will occasion

in many instances an augmentation of blood in the vessels of the head, by hindering its return freely from the brain.

11th. ANY violent exertion, which is suddenly brought on may be considered as another exciting cause; the manner in which this effect is produced is by occasioning a long inspiration in breathing; the consequence of which will be, the blood must be retarded in its passage through the lungs from the right side of the heart, and of course will interrupt the return of blood from the head: this is also discovered by the appearance of the countenance.

12th. FLEXION and twisting of the neck, ligatures drawn very tight round the neck, tumors, &c. all occasion apoplexy, these act by compressing the internal jugular veins, and obstructing the blood through them.

13th. EXTREME intoxication, food difficult of digestion in the stomach; Doctor Rush says he knew an instance in Philadelphia of an apoplexy being brought on by a person supping on toasted cheese.

14th. BREATHING the contaminated air in a crowded assembly will frequently excite a fit of apoplexy.

15th. NARCOTIC substances have sometimes the same effect in producing this disorder.

16th. VOMITING is said to be a powerful exciting cause. In this case, the contents of the viscera of the abdomen are compressed in a violent manner, the diaphragm and abdominal muscles are brought into a state of convulsion, the consequence of which will be, that the blood in the ascending vena

cava must be sent with much more velocity to the right auricle and ventricle of the heart; wherefore, obstructing the free discharge of blood in the descending cava, there will also be some degree of compression of the descending aorta; and thereby must occasion a much greater determination of blood to the head; from the circumstance of vomiting respiration becomes obstructed, and the blood which passes through the right ventricle of the heart, is impeded and cannot be discharged into the pulmonic vessels; therefore, the venal blood returning from the head will be obstructed: though there is at the same time a considerable quantity sent to the head by the larger arteries, and apoplexy is brought on by a rupture and extravasation of blood in some of the vessels of the brain.

PROXIMATE CAUSE.

THE proximate cause of diseases has always engaged the particular attention of physicians of the greatest eminence, ever since the most early knowledge of the human body and its diseases: therefore, there have been (as one might naturally suppose) a variety of opinions and theories on the subject; many however, appear to have been merely hypothetical and visionary; and it is certainly at this present time, a part of the science of medicine, which is exceedingly intricate to comprehend in an accurate and satisfactory manner. There have been at different periods of time, several theories advanced to account for the proximate cause of the disease we are at present considering; but most of them appear to me not well founded in fact.

THUS some suppose that apoplexy depends entirely on sthenic diathesis, while on the other hand it is asserted to depend on an asthenic diathesis of the system; and Doctor Hoffman in his practice of physic, supposes that this disease is always owing to haemorrhagy of the vessels, consequently he gives the same proximate cause to it, as to haemorrhagy in every other part of the body. Doctor Cullen, in his first lines of the Practice of Physic, supposes the proximate cause to be whatever interrupts the motion of the nervous power from the brain to the muscles of voluntary motion, or whatever has a tendency to destroy the mobility of the nervous power from the sentient extremities of the nerves to the brain.

THE opinion of Doctor Rush on this subject, appears to me very plausible. He observes in his clinical lectures, that the proximate cause of apoplexy, is a *defect* or *excess* of irregular action in the vessels of the brain. This idea perfectly corresponds with the theory the Doctor has laid down respecting the division of the disease, into *tonic* and *atonic* states. Therefore, I shall adopt this theory of the proximate cause of apoplexy, because it appears as consonant to just reason and sound philosophy, as any which has been advanced on the subject.

PROGNOSIS.

A PHYSICIAN should always be very much on his guard, in giving a decided opinion respecting the favorable termination of this disease; because, in many instances, the causes which oc-

casion an attack of an apoplectic paroxysm are so powerful, and the disease runs its course with such great rapidity, that animal life is very soon extinguished ; notwithstanding, the most efficacious remedies have been administered with vigilance and circumspection : but at other times a physician may be more safe and justifiable in giving a prognosis if he will always be particularly attentive to pay respect, (and which will be of the greatest importance to him) to a consideration of the patient's time of life, vigor of constitution, and customary habits ; likewise, to the nature of the symptoms, continuance of the disease, and its peculiar predisposing and exciting causes.

CONSEQUENTLY, if the coma and other attending symptoms are in a slight degree, and the strength of the system not considerably exhausted ; there may be some reasonable hopes of a recovery ; but on the contrary, if all of these symptoms increase in force, and continue violent any length of time, as for several days, the disease will most generally terminate in the dissolution of the patient's life ; or proceed into some other complaint : and it is said that before death, the pulse, which from the first attack had been full and flow, now begins to become quick and frequent in its pulsations.

IT has been a commonly received opinion that a patient cannot survive a third attack of a fit of apoplexy ; though this opinion certainly appears to be fallacious and is without any just or reasonable foundation ; as it appears very evident that it must depend entirely on the violence and duration of the paroxysms, and not on any fanciful or particular number. As the patient's senses become

considerably diminished, so in proportion, will the danger of death be apprehended. When the pulse becomes very slow or very frequent, it is observed to be an unfavorable sign, and when the pulse is irregular and very feeble, it portends that death is fast approaching, and will soon close the tragic scene.

WHENEVER the sphincter muscle of the anus, and also of the bladder, become much relaxed, and loose their power of action, in the first onset of the fit, there will be great reason to apprehend that it will terminate in the death of the patient, as it is an unfavourable symptom. Sometimes the patient loses entirely all power of deglutition; when this happens the danger is very considerable, as it indicates a disease of great violence and severity; when a cold and clammy sweat comes out on the surface of the body, with a cadaverous or deadly appearance of the countenance, floridity and dulness of the eyes, the prognosis must be unfavorable, as a recovery is scarcely, if ever to be expected; on the contrary, when the disease comes on in consequence of a sudden cessation of any customary evacuation, and if this should return again spontaneously, or by the means of artificial measures, accompanied with a gentle and equable perspiration over the whole surface of the body; there may still be some hopes of a salutary termination of the paroxysm; it is mentioned that a copious and free discharge of urine, containing a sediment; also, spontaneous evacuations from the intestinal canal; likewise, spontaneous vomiting, have all of them been the means of bringing on a resolution of the disease.

METHOD OF CURE.

WE come now to a part of our subject, which is of the utmost consequence to be attended to, by every physician, who values the life and health, of his patient; because, the disease frequently proves suddenly fatal, notwithstanding immediate assistance has been resorted to and the most powerful remedies have been administered without delay, but all in vain; and the physician has to stand oftentimes an humble and compassionate spectator, seeing his patient expire in the agonies of death, without being able to afford any assistance:—what is of further consequence and importance is, that whenever a person has once been attacked with this direful malady, however slight it might have been, he will hardly ever enjoy so good a share of health, and vigor of constitution as before, and will always be very liable to a return of another paroxysm.

THIS will of course lead us to divide the cure into two distinct parts. The first is to employ remedies during the continuance of the disease; and the second is, after the complaint is removed, to administer those remedies which will be proper and suitable to prevent a relapse.

THE remedies for the first indication are, 1st. Bleeding. It is of the greatest importance to bleed in this disease, as much so, as in any inflammatory complaint whatever, not even pneumonia and phrenitis excepted.

DRAWING of blood from the occipital and frontal veins, or temporal arteries as has been recom-

mended by different authors, must frequently prove inconvenient and troublesome; therefore, should on most occasions be laid entirely aside, particularly, as it can be obtained from another source, with more ease and equal advantage.

OPENING the carotid arteries and jugular veins has been recommended, but as this operation may sometimes be attended with serious consequences to the patient, it should never, in my opinion be put in practice, except in some very urgent cases indeed.

CONSEQUENTLY, bleeding in one arm or both arms has been substituted in their place by most practitioners, and with great propriety.

THE quantity of blood necessary to be drawn, must always be in proportion to the fulness of the pulse and condition of the system; but on most occasions, it will be absolutely proper and urgent to bleed immediately and copiously, as soon as a person has been attacked, for by this mean, it will lessen excessive action in the arterial and venous systems, and obviate to a considerable degree indirect debility, and therefore prevent in a great measure effusions taking place in the brain; when it arises from falls or violent contusions, blood-letting should always be very copious, excepting there was great predisposing debility before, to contraindicate so liberal a use of it.

WHEN blood-letting has been employed in as sufficient quantities as the patient's strength will admit of, and the violence of the symptoms continue; cupping on the temples and scarifying on

the back part of the head, may be practised with advantage; as these means, may obviate the symptoms without increasing the debility of the system in so great a degree.

2nd. PURGES. These are of the greatest importance, and if any power of swallowing remain, drastic purgatives should be preferred, given by the mouth, but if deglutition is not capable of being performed, then acrid glysters must be administered: although, purgatives have been objected to by some, yet experience and observation, appear to warrant their usefulness. They produce their good effects by evacuating the contents of the intestines, and making a revulsion from the head; it is supposed this organ is generally relieved in proportion to the quantity discharged.

3rd. COLD water will lessen excess of action in the vessels of the brain, and when poured on the head, may prove a very powerful and useful remedy in the cure of apoplexy.

4th. It will be absolutely necessary that the patient should be placed in an erect posture, so that the blood may flow as easily as possible from the head; all ligatures should be removed from the neck and different parts of the body.

WHEN a patient has been in a paroxysm three or four hours, before assistance is obtained, then the above remedies may not be so proper or useful; because the system must have run into such a state of indirect debility, that they would not answer the proper indication; therefore recourse must be had to remedies of a more powerful and stimu-

lating nature. The following will be found proper and sometimes very efficacious.

1st. **BLISTERS** applied to the whole head. It will be necessary that the head should be shaved sometime before their application.

2nd. **THE** actual cautery applied to the head.

3rd. **ACRID** stimulating cataplasms of mustard and flour applied to the palms of the hands, and soles of the feet, have proved very beneficial, in rousing the patient.

4th. **FRICtIONS** and electricity are excellent stimulants, and will be found very serviceable.

5th. **COOL** and pure air is of the greatest importance in this disease; therefore all persons should be turned out of the room immediately, except those who are absolutely necessary to attend on the patient; for they phlogisticate the air, and render it unfit for the purposes of respiration: cool air may in some degree diminish the action of the heart and arteries, and prove useful also in that way.

THE remedies for the second indication. It will be of considerable importance to pay particular attention to those means, which may have a tendency to prevent a return of an apoplectic paroxysm; particularly, as this disease is very much disposed to return, after a person has once been attacked with it; and the repeated attacks of it almost always sooner or later terminate in the death of the patient. When it terminates in death, it is gen-

erally preceded by *vomiting*, *cold sweats*, and *convulsions*: sometimes it runs into an *hemiplegia* or *paraplegia*: when this happens, there is pretty generally a loss of the internal senses, as of the memory accompanied with fatuity &c. and it does sometimes happen, that it terminates in perfect health; but this is not a frequent occurrence.

AND as the disease may depend on two different states of action in the system, either *tonic* or *atonic*; the method of preventing the fits, must be regulated according as one or other of these should happen to prevail; as well as a due attention likewise to the predisponent and exciting causes.

THEREFORE all those persons who are of a full and plethoric habit of body, should pay particular attention to sobriety in eating and drinking; they should attend also strictly to the quantity and quality of their aliment, and should always be careful to avoid overloading their stomachs with food at any time, but at supper it should be particularly abstained from altogether. Those who have habituated themselves to eating supper, it might be improper for them to leave it off all at once; therefore, their food either animal or vegetable, should be in small quantities, light and of easy digestion.

IF the patient has been accustomed to drink wine or other spirituous liquors of any kind, he should not abstain from them immediately; but must use them with great moderation, and it may not be improper to dilute them with water. *Wine* being lighter and much less nutritious, than either *beer*, *porter* or indeed any *malt liquor* whatever; will certainly be

most preferable and will not be so liable to produce plethora of the system ; running, jumping, &c. or violent exercise of any kind, should be particularly avoided by every person, who is the least predisposed, or has had an attack of this disorder.

EXERCISE is of very great advantage in this disease, as it will when united with a proper regimen, obviate in a considerable degree plethora of the system ; it ought to be of such a kind as may support the perspiration, without increasing the heat of the body, or hurrying respiration ; therefore, *riding* and *walking*, will be found the most proper and useful of any.

PERSONS who are not subject to frequent fits of giddiness, and who have habituated themselves to riding on horseback, should continue in the practice of using it, as this mode of exercise is preferable to all others ; when however giddiness does take place, then bodily exercise may be employed with beneficial effects ; though it will be highly proper and necessary to pay particular attention to the restrictions which I just now mentioned ; but in men who are very far advanced in years, and also men of corpulent habits of body, the exercise of walking ought always to be in a moderate degree, and frequently repeated.

VIOLENT passions of the mind which are suddenly brought on, should by all means be carefully avoided, as anger, fear, excessive joy, &c. as they would prove of the most mischievous consequences to the patient.

WHEN symptoms do occur of a plethoric state

in the vessels of the head, a feton or pea-issue applied in the nape of the neck, may prove useful, by obviating any turgescence of blood there.

WHERE there is a tendency to a plethora in the vessels of the head, or it does actually exist, gentle laxatives may be administered with propriety, as they will in some measure prevent a turgescence in those parts.

IT will be highly important, to guard particularly against all the exciting causes, as they will have a very great influence in bringing on a relapse; such as passions of the mind; anxiety of mind, intense application to study, too tight ligatures about the neck; exposure of the feet to cold and wet, &c. and if a person has been habituated to have a discharge from the nose, hæmorrhidal vessels, or any other part of the system, and there should be a cessation of them all of a sudden, he ought by every possible means in his power to bring back again the customary evacuation. If this cannot be accomplished, recourse must be had to an artificial discharge by a feton or issue, which must be perpetually kept open.

ANY customs and habits, which the patient has been long accustomed to, should not be changed immediately, but in a gradual manner; further, all those who are of a delicate and weakly habit of constitution, and have at the same time, symptoms of plethora and turgescence in the vessels of the head, should pay strict attention to temperance in eating and drinking, and in every other respect endeavour to avoid, as much as possible,

those causes which may increase the general circulation of blood in the arterial and venous systems; and they ought to use moderate exercise, and every other gentle tonic which might have a tendency to restore vigor and strength to the body. Sometimes the premonitory symptoms which I formerly mentioned on another occasion do occur, although remedies have been employed to prevent them; when this happens to take place, the most proper method to be pursued is *blood letting, mild purgatives and vegetable diet.*

THE phenomena which have appeared on dissecting those who have fallen victims to this insidious disease, are effusions of red blood, sometimes a quantity of fluid analogous to serum, and on some rare occasions an effusion of pus; a distention frequently of the plexus choriodes, and bodies something similar to hydatids in other parts of the body have been found conjoined with them, containing blood and serum; large tumors; and the brain is sometimes more flaccid and softer than in a natural state. There is usually a distention of the arteries and veins with blood, and an extravasation of blood or serum is almost on all occasions found between the cranium and dura mater, the dura and pia mater or in the ventricles of the brain; and the elaborate dissections of the learned Morgagni, have shown that effusions of blood have taken place in every part within the cranium.

HAVING brought this dissertation to a conclusion, I have only to bid a cordial and an affectionate farewell to this rising university. That she may

long continue to be the grand forum for the promotion of medical science in the United States of America ; and send forth her sons, eminent for scientific knowledge and moral rectitude. That her medical professors may ever continue to be the patrons and promoters of the healing art—and walk through the scenes of human life unrivalled, and be a perpetual ornament in the annals of mankind, is my most ardent and sincere wish.

F. I. N. I. S.

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